CLAIMS

What is claimed is:

1. An apparatus comprising:

a network processor;

storage associated with said network processor;

an interface coupling said network processor to a communications network;

instructions and data within said storage, said instructions and data directing said network processor to function as a packet capture and analysis tool used to analyze packets on said communications network.

2. The apparatus of claim 1 wherein said data and instructions direct said network processor to analyze Real Time Transport Protocol (RTP) packet streams on said communications network.

3. The apparatus of claim 1 wherein said data and instructions direct said network processor to analyze packet streams for other protocols such as TCP, UDP, TCP/IP, SCTP, MGCP, H.323 and H.248.

3. The apparatus of claim 1 wherein said data and instructions direct said network processor to analyze a signaling protocol packet stream on said communications network.

4. The apparatus of claim 1 wherein said packets are analyzed for characteristics selected from the group consisting of total packets, bytes per second and number of RTP streams present.

5. The apparatus of claim 1 wherein said packets are analyzed to provide performance statistics of streams of packets on said communications network.

6. The apparatus of claim 5 wherein said statistics are selected from the group consisting of call rate, call aborts, call setup to audio time, call establish time, call release time, and call duration.

7. The apparatus of claim 1 wherein said packets are analyzed to provide audio statistics, said audio statistics selected from the group consisting of min./max. average packet jitter, number of packets lost, number of re-ordered packets, number of duplicate packets, number of packet errors, an audio encoding algorithm, packets pre second, audio data per packets and number of packets.

8. The apparatus of claim 1 wherein said packets are analyzed as groups of streams to provide group statistics, said group statistics selected from the group consisting of max/average packet jitter across all stream in the group, max/average number of packets lost across all the streams in the group, max/average number of packets re-ordered across all streams in the group, max/average number of packets duplicated across all the streams in the group, max/average number of packets erred across all the streams in the group, breakdown of streams by audio encoding, max/average length of time, and average payload size.

9. The apparatus of claim 1 wherein said packets are analyzed to provide interface characteristics, said interface characteristics selected from the group consisting of max/average number of simultaneous active streams of packets, current number of active streams, total number and rate of packets, total number and rate of bytes, max/average percent usage of interface bandwidth, and total number ands rate of erred packets.

10. An apparatus comprising:

a network processor;

storage associated with said network processor;

an interface coupling said network processor to a communications network;

instructions and data within said storage, said instructions and data directing said network processor to function as a packet capture and analysis tool used provide profiles of network parameters..

11. The apparatus of claim 10 wherein said profiles of network parameters are selected from the group consisiting of jitter, loss, delay, packet reordering and packet duplication.

12. An apparatus comprising:

a network processor;

storage associated with said network processor;

an interface coupling said network processor to a communications network;

instructions and data within said storage, said instructions and data directing said network processor to function as a packet capture and analysis tool used to capture packets on said communications network.

13. The apparatus of claim 12 wherein said packets are filtered such that only packets meeting a criteria are captured.

14. The apparatus of claim 13 wherein said criteria are sleected from the group consisiting of a source IP address, destination IP address, source UDP paort

number, destination UDP port number, interface port, audio encoding algorithm, MAC address, MAC Ethernet type, IP protocol number, IP differentiated services byte, and a specific byte mask pattern.

15. The apparatus of claim 12 wherein a trigger is used to start and/or stop packet capture.

16. The apparatus of claim 15 wherein said triggering is based on an event selected from the group consisting of a packet error, a start of a packet stream, an end of a packet stream, jitter greater than a threshold, a dropped packet, a duplicate packet, a re-ordered packet, a call signaling event, source IP address, destination IP address, source UDP port number, destination UDP port number, interface port, audio encoding algorithm, MAC address, MAC Ethernet type, IP protocol number and a specific byte mask pattern.

17. The apparatus of claim 12 wherein data stripping is used to remove unwanted data from a captured packet.

18. The apparatus of claim 17 wherein data stripping excludes data selected from the group consisting of packet header, packet payload, and partial payload.

19. The apparatus of claim 1 wherein said captured packets are post process analyzed.

20. The apparatus of claim 19 wherein said post process analyzing provides function selected from the group consisting of view filtering, data filtering, packet viewing and packet decoding.